

REMARKS

Reexamination and reconsideration of the above-identified application is respectfully requested. Claims 1, 4, and 5 have been amended, Claims 18-21 have been canceled, and new Claims 22-41 have been added. Therefore, Claims 1-7, 15-17, and 22-41 are pending in the present application. Applicants acknowledge with appreciation that Claims 4, 7, 17, and 19 contain allowable subject matter and will be allowable if rewritten in independent form.

Claims 1-3, 5, 6, 15, 16, 18, and 20 were rejected in a April 10, 2002, Office Action (hereinafter "Office Action") under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,464,681, to Luce (hereinafter "Luce"). Applicants respectfully disagree with the prior art rejections, and have amended the claims to further point out and distinctly claim the novel aspects of the present invention. The reasons why Applicants disagree with the rejections cited in the Office Action and believe that the claims of the present application are allowable are discussed below, following a brief description of the invention in a brief description of the cited prior art.

Applicants' Invention

The present invention is directed toward a printed document, such as a bank note, having a counterfeiting prevention feature. The document includes a substrate, which can be a polymer film or paper, having a surface to which printed matter is applied. The document also includes a reflective or brightly coloured layer applied to the surface of the substrate by a printing process. The reflective or brightly coloured layer can be ink, which produces a reflective or brightly coloured effect, or a reflective foil, typically comprising a carrier film, a release layer, a metallized layer, and an adhesive. After the reflective or brightly coloured print layer is applied to the substrate, printed matter is then applied to the surface of the reflective or brightly coloured layer by the Intaglio process to produce a print having raised regions of at least 5µm. The raised

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regions of the printed matter form an image, which is significantly enhanced by the reflective or brightly coloured layer when viewed under different lighting conditions and viewing angles. Specifically, when the document is viewed from directly above, the raised printed image obscures only that part of the reflective layer that is directly underneath the raised printed image. However, when the document is tilted at different angles, the raised printed image will obscure more of the reflective layer from view. This creates a unique effect as the document is moved through different angles that is highly useful on security documents since the raised ink in particular, cannot be easily duplicated by conventional copiers such as photocopying machines. In an embodiment where a polymer substrate is used, the smooth surface of the polymer substrate further intensifies the reflective effect of the reflective or brightly coloured layer.

Luce

Luce is directed toward a replaceable adhesive display. Generally described, Luce addresses the need for providing a paper or foil display coated with a replaceable adhesive that leaves substantially no mark from the adherand surface and can be attached or mounted repeatedly to a surface. Luce purportedly discloses a replaceable adhesive display composed of a paper substrate or a metallized paper or foil to which an image is printed on at least one side. The printed image is applied to the substrate using a half-tone technique (tiny dots) by offset lithography, letterpress, gravure, and silk screen printing processes. A transparent plastic overlay is applied on both sides of the printed paper substrate, which may protect the printed image from smudges, abrasion, fading, and the like. A replaceable adhesive is disposed on the side of the paper substrate opposite the print side for mounting to a surface.

Luce, however, fails to teach the height of the raised printed image being at least 5µm. Additionally, Luce states that an object of the replaceable adhesive display is to utilize a paper or metallized paper substrate to overcome the deficiencies of prior art displays that utilize a plastic

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substrate. Accordingly, Luce does not disclose and in fact teaches away from the use of a plastic substrate for the replaceable adhesive display.

REJECTIONS UNDER 35 U.S.C. § 103(a)

Amended Claim 1

As amended, independent Claim 1 recites a printed document that includes "a substrate to which printed matter is applied, said substrate having a first side and a second side, a reflective or brightly coloured layer which is printed onto one side of the substrate without embossment; and a raised printed image applied to said reflective or brightly coloured layer by a printing process, at least part of said raised printed image having a height of at least 5µm and being visible from all angles of the document." The present invention, as defined by amended Claim 1, provides a printed document composed of a substrate, a reflective or brightly coloured layer printed onto the substrate, and a raised printed image of at least 5µm applied to the reflective or brightly coloured layer. By applying a raised printed image of at least 5µm on a reflective or brightly coloured layer, a counterfeiting prevention feature is formed in the document. As will be discussed in detail below, Applicants respectfully assert there is no teaching or suggestion for the printed image of Luce to be at least 5µm as defined in Claim 1.

As discussed above, Luce teaches a particular type of printing referred to as halftone printing as discussed from column 3 line 65 to column 4 line 38, which may utilize offset lithography, letterpress, gravure, and silk screen processes. However, applicant assert that all of the above processes, with the possible exception of silk screen will produce no more than about 3µm of ink thickness above the surface of the substrate. And while silk screen printing may be capable of achieving ink thicknesses in excess of 5µm, there is no express teaching or direction in Luce to do so. Moreover, it is a known deficiency that screen printing is not capable of producing fine lines and fine detail print which is commonplace in security printing. Thus, silk

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screen printing would not be regarded as a viable option for producing printed documents in the field of the present invention. Accordingly, Applicants assert that one skilled in the art would disregard silk screening as a way for achieving the unique effect of the present invention discussed above.

Additionally, Applicants assert that Luce fails to teach or suggest the reflective or brightly coloured layer being printed onto one side of the substrate. Specifically, Luce does not disclose how the metallized layer of the metallized paper or foil is applied to the paper substrate. Therefore, Applicants submit that Luce fails to teach that the metallized layer of the metallized paper or foil is printed onto the substrate. The benefit of a printed reflective or brightly coloured layer is that it can be achieved as part of the standard printing process thereby allowing the security feature to be incorporated in a commercially viable way.

Thus, for at least these reasons discussed above, Applicants believe that amended Claim 1 is in condition for allowance.

New Claim 22-41

New Claims 22-41 have been added to further point out and distinctly claim the novel aspects of the present invention. Applicants submit that none of the prior art, alone or in combination, teach or suggest Applicants' invention as recited in Claims 22-41, and therefore, are allowable over the prior art. The reason why Applicants believe that the new claims of the present application are allowable are discussed below.

New Claims 22 and 23

Dependent Claims 22 and 23 depend from amended Claim 1, and as such, contains all of the elements of Claim 1. Accordingly, for the reasons discussed above with respect to amended Claim 1, Applicants believe that Claims 22 and 23 are in condition for allowance.

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Claim 23, in addition to the foregoing elements of Claim 1, recites that the printed image is a pattern having regions of substantially parallel lines. Applicants assert that a particularly acute form of the unique effect described above is achieved where the pattern of ink is a series of substantially parallel lines. Specifically, when viewed at right angles to the parallel axis of the print lines, the distinction between the print lines and the reflective or brightly coloured layer are apparent to the naked eye. As the substrate is tilted, there is a point at which the reflective or brightly coloured layer will not be visible and one can see only the deposited ink layer itself. In contrast, Luce is said to teach a half-tone technique where the print image is made up of dots, not a pattern having regions of substantially parallel lines. Thus, for at least this additional reason, Applicants believe that Claim 23 is in condition for allowance.

New Claim 24

Claim 24 is written in independent form and is substantially similar in scope as Claim 23. Claim 24 recites a printed document that includes a substrate, a reflective or brightly coloured layer which is printed onto one side of the substrate without embossment, and a raised printed image having regions of substantially parallel lines applied to the reflective or brightly coloured layer by a printing process, at least part of the raised printed image having a height of at least 5µm and being visible from all angles of the document." Thus, for the reasons discussed above with respect to Claim 23, Applicants believe that Claim 24 is in condition for allowance. Accordingly, Applicants believe that Claims 25-33, which depend from Claim 24, are in condition for allowance.

New Claim 34

Claim 34 recites a printed document that includes "a plastic substrate to which printed matter is applied, the substrate having a first side and a second side, a reflective or brightly coloured layer which is printed onto one side of the substrate without embossment, and a raised

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printed image applied to the reflective or brightly coloured layer by a printing process, at least part of the raised printed image having a height of at least 5µm and being visible from all angles of the document." As will be discussed below, Luce fails to disclose and specifically teaches away from the use of a plastic substrate.

Luce is directed to a replaceable adhesive display. As described above, Luce purportedly teaches a replaceable adhesive display composed of a paper substrate or a metallized paper or foil to which an image is printed on at least one side. A transparent plastic overlay is applied on both sides of the printed paper substrate, which may protect the printed image from smudges, abrasion, fading, and the like. A replaceable adhesive is disposed on the side of the paper substrate opposite the print side for mounting to a surface. In previous displays described in Luce's background of the invention, a plastic substrate was used in constructing the display. However, the use of plastic substrates in such displays "require a relatively strong bonding adhesive, and when the display is removed from its mount, an adhesive residue or mark off is noticeable, which typically needs to be scraped off of the mounting surface. Further, if the adhesive is applied to the print side, or if both sides of the substrate are printed, a strong adhesive may pull away some of the ink, leaving it, along with the adhesive residue, on the mounting surface." See Column 1, line 62, through Column 2, line 5. The intended purpose of Luce is to address these deficiencies in the prior art by utilizing a paper substrate because of the advantages associated with paper substrates. These advantages include significant cost savings in that paper is substantially cheaper than plastic substrate materials, normally does not require special inks, and exhibits better ink holdout. See Column 2, lines 24-31. Additionally, a paper substrate presents a clearer, sharper, and more aesthetically pleasing image than plastic substrates. See Column 2, lines 31-33.

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Since Luce explicitly states that the intended purpose of the invention is to provide a paper or foil display coated with a replaceable adhesive that overcomes the deficiencies of plastic substrates noted in the prior art, Applicants submit that Luce fails to disclose and specifically teaches away from the use of a plastic substrate. Accordingly, Applicants believe that Claim 34, and Claims 35-41 which depend therefrom, are in condition for allowance.

CONCLUSION

In conclusion, Applicants submit that the claims of the present application are allowable over the cited and applied references. If any further questions remain, the Examiner is invited to telephone Applicants' attorney at the number listed below.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE AUGUST 12, 2002

In the Claims:

1. (Twice Amended) A printed document or other device comprising a substrate [of plastics film capable of use to form a bank note and having a surface] to which printed matter is applied, said substrate having a first side and a second side, a reflective or brightly coloured layer [applied directly to said surface as part of a printing process,] which is printed onto one side of the substrate without embossment, and a raised printed image applied to said reflective or brightly coloured layer by a printing process, at least part of said raised printed image having a height of at least 5µm[, said reflective or brightly coloured layer being printed directly on the substrate to utilize the reflective effect in the plastics film to intensify the reflective properties of the reflective or brightly coloured layer and to further enhance the raised printed image] and being visible from all angles of the document, said raised printed image being enhanced by said reflective or brightly coloured layer when viewed at different angles and under different lighting conditions.

4. (Amended) The document of Claim 1 or 2, wherein the substrate is a plastics film capable of use to form a banknote, the reflective or brightly coloured layer being printed over an opaque ink layer applied to [the surface]one side of the substrate.

5. (Amended) The document of Claim 1 or 2, wherein the substrate is a paper film having a smooth [first or second] side to which the reflective or brightly coloured layer is applied.

Claims 18-21 have been canceled

Claims 22-41 have been added.

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